

### **Abstract**

A semiconductor chip is shown containing an integral heat spreading layer that more effectively transmits heat from the die to ambient as a result of spreading the heat out on the die over a larger cross sectional area. Local hot spots are  
5 minimized which allows the semiconductor chip to operate at a higher frequency for a given upper threshold temperature. Also shown is a method of manufacturing such a semiconductor chip, and the associated method of cooling a semiconductor chip.

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